

1-14. (CANCELED)

15. (NEW) A method of heat-sealing at least one synthetic film of thermoplastic material onto a container made of at least one synthetic thermoplastic material, particularly a container for packaging products that are susceptible to microbiological contamination, more specifically, perishable biological or commodities such as agricultural produce, using at least first and second thermal electrodes, the method comprising the steps of:

stabilizing at least the first thermal electrode by controlling a variation in a heat flux emitted by the first thermal electrode;

regulating a temperature difference between the first thermal electrode and the second thermal electrode by controlling a heat flux flowing between the first thermal electrode and the second thermal electrode, and the heat flux resulting from temperature disequilibrium existing between the first thermal electrode and the second thermal electrode and variation in thermal resistance corresponding to a physical state of the synthetic plastic material;

regulating pressure exerted on the synthetic thermoplastic material, by at least one of the first thermal electrode and the second thermal electrode, by controlling instantaneous variation in heat flux resulting from a thermal energy absorbed by melting of the synthetic thermoplastic material; and

regulating a device for cooling the synthetic thermoplastic material by controlling the instantaneous variation in the heat flux resulting from a thermal energy restored by the synthetic thermoplastic material when it crystallizes.

16. (NEW) The method according to claim 15, further comprising the step of stabilizing the first thermal electrode and regulating a temperature difference between the first and second thermal electrodes by controlling heat fluxes using at least one heat flux sensor associated with the first and second thermal electrodes .

17. (NEW) The method according to claim 15, further comprising the step of regulating the pressure exerted by at least one thermal electrode on the synthetic thermoplastic material by a cylinder associated with the at least one of the first and second thermal electrodes.

18. (NEW) The method according to claim 15, further comprising the step of regulating cooling of the synthetic material by chilling at least one of the first and second thermal electrodes.

19. (NEW) A device for heat-sealing at least one film of synthetic thermoplastic material onto a container made of at least one synthetic thermoplastic material, particularly a container for packaging products susceptible to microbiological contamination, more specifically, perishable biological or commodities such as agricultural produce, using at least first and second thermal electrodes (11, 12), the device comprising:

- a means for stabilizing at least the first thermal electrode (11) by controlling variation in heat flux emitted by the first thermal electrode;

- a means for regulating a temperature difference between the first and the second thermal electrodes (11, 12) by controlling a heat flux flowing between the first electrode and the second electrode, and the heat flux resulting from the temperature disequilibrium between the first and the second thermal electrodes and variation in thermal resistance corresponding to a physical state of the synthetic thermoplastic material;

- a means for regulating a pressure exerted by at least one of the first and second thermal electrodes onto the synthetic thermoplastic material by controlling an instantaneous variation in heat flux resulting from thermal energy absorbed by melting of the synthetic thermoplastic material;

- a means for regulating a device for cooling the synthetic thermoplastic material by controlling the instantaneous heat flux variation resulting from thermal energy restored by the synthetic thermoplastic material when it crystallizes.

20. (NEW) The device according to claim 19, wherein the means for stabilizing at least the first thermal electrode (80) by controlling the variation in heat flux emitted by the electrode comprises a heat flux sensor (82) and a thermofluximetric regulator (86) associated with the first thermal electrode.

21. (NEW) The device according to claim 19, wherein the means for regulating the temperature difference between the first and the second thermal electrodes by controlling the heat flux flowing between the first and the second electrode, the heat flux

resulting from the temperature disequilibrium between the first and the second electrodes and the variation in thermal resistance corresponding to the physical state of the synthetic thermoplastic material comprises at least one heat flux sensor associated with each of the first and second thermal electrodes and a thermofluximetric regulator connected to the heat flux sensors and to the first and second electrodes.

22. (NEW) The device according to claim 19, wherein the means for regulating the pressure exerted by at least one of the first and second thermal electrodes onto the synthetic thermoplastic material by controlling the instantaneous variation in heat flux resulting from the thermal energy absorbed by the melting of the synthetic thermoplastic material comprises a cylinder (14) associated with the thermal electrode (11).

23. (NEW) The device according to claim 19, wherein the means for regulating a device for cooling the synthetic thermoplastic material by controlling the instantaneous variation in heat flux resulting from restoration of thermal energy by the synthetic thermoplastic material as it crystallizes comprises at least one cooling channel (71) located inside at least one of the thermal electrodes (70).

24. (NEW) The device according to claim 19, wherein at least one of the first and second thermal electrodes comprises a heating bar (41; 51; 81).

25. (NEW) The device according to claim 19, wherein at least one of the first and second thermal electrodes comprises a thermal capacitor (34; 45; 72).

26. (NEW) The device according to claim 19, wherein at least one of the first and second thermal electrodes is attached to a flexible block (36; 48; 58).

27. (NEW) The device according to claim 26, wherein the thermal electrode is housed in flexible block which is attached to a support (37; 49; 59) on a heat-sealing device.

28. (NEW) The device according to claim 19 wherein the first and the second thermal electrodes (11; 12) each comprise an integrated resistor element (11b; 11e; 12b; 12e).